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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/851,465	05/05/1997	EDGAR C. ROBINSON	INT21246	5986

7590 09/10/2003

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EXAMINER

COCKS, JOSIAH C

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 09/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/851,465

Applicant(s)

ROBINSON ET AL.

Examiner

Josiah C. Cocks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/30/03 has been entered.

Drawings

2. Applicant is reminded that the drawings filed with the application were declared informal by applicant and were objected to by the draftsman on a PTO-948 form, which was attached to the Office Action mailed 4/23/02 (paper # 20). These drawings are regarded as acceptable for examination but new formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Nutten et al.* (US # 3,428,406) (hereinafter "*Nutten*") in view of *Reichhelm* (US # 3,361,183) and *Bennett* (US # 4,061,463) (previously cited in the PTO-892 form included with the Office Action mailed 4/23/02 (paper #20)).

Nutten discloses in Figures 1-32 a liquid fuel burner assembly comprising an air aspirated nozzle (40), a compressor to provide air under positive pressure to the air aspirated nozzle, a zero pressure regulator (60), a fuel supply tank to supply liquid fuel in liquid form and at ambient pressure to the air aspirated nozzle, the fuel entering the nozzle under negative pressure created by air entering the air aspirated nozzle under positive pressure, a manual isolation valve (58), a fuel control valve (110) configured to control liquid fuel supplied to the burner nozzle based on the air flow to the nozzle such that fuel flow is halted in the event of failure of the air flow, and pressure actuated arrangements for controlling flow of liquid fuel to the burner (see col. 9, lines 14-34) .

Nutten possibly does not disclose a manual metering valve interposed between the liquid fuel supply and air aspirated nozzle which is adjustable during operation of the burner assembly or that the burner is an infrared burner.

Reichhelm teaches a liquid fuel burner in the same field of endeavor as *Nutten* wherein the burner of *Reichhelm* includes manual air control (34) and liquid fuel control (22) valves, wherein during operation of the burner these valves are arranged to control/meter the fuel flow and the air flow in accordance with desired flame settings (see col. 6, lines 1-4).

Bennett teaches a liquid fuel burner in the same field of endeavor as *Nutten* wherein *Bennett* explicitly notes that infrared burners are simply a category of burner that includes the use of the burner in conjunction with a incandescent surface such that flames produced by the burner are not used for direct heating but are projected against the incandescent surface to radiate heat (see col. 1, lines 10-36 and col. 3, lines 15-18).

Therefore, in regard to claims 1-8, it would have been obvious to a person of ordinary skill in the art at the time the invention was made; to modify the fuel control valve of *Nutten* to incorporate the metering/controlling mechanisms of *Reichhelm* for the desirable purpose of controlling air and fuel ratio such that desired characteristics of burner performance may be achieved (see *Reichhelm*, col. 5, lines 54-57) and a safety hazard may be prevented from occurring (see *Nutten*, col. 9, lines 28-34), and to modify the burner of *Nutten* to be an infrared burner as taught in *Bennett* as infrared burners are preferred when using liquid fuel because of their cleanliness and efficiency and because these burners minimize the possibility of flame quenching (see *Bennett*, col. 3, lines 18-27).

Response to Arguments

6. Applicant's arguments filed 6/30/02 have been fully considered but they are not persuasive. Applicant's primarily argues that none of the references cited show a metering valve. Applicant argues that the valves (34 and 22) of *Reichhelm* relied upon by the examiner to do constitute metering valves as claimed by applicant. In response to applicant's argument that none of the reference describe metering the fuel to adjust BTU output, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). *Reichhelm* clearly describes the air and fuel flow through the valves (22 and 34) as being proportioned and this proportioning enables desired characteristics of burner performance to be achieved and to obtain desired flame settings (see *Reichhelm*, col. 5, lines 54-56 and col. 6, lines 1-4). A person of ordinary skill in the art would reasonably regard this proportioning as constituting the "metering" as claimed by applicant. Further a person of ordinary skill in the art would reasonably understand adjusting burner performance and flame setting to relate to adjusting the heat output (or BUT output of the burner). The examiner does not consider applicant's claims 1-8 to read over the prior art relied upon.

Conclusion


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (703) 305-0450. The examiner can normally be reached on weekdays from 7:30 AM to 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett, can be reached at (703) 308-0101. The fax phone numbers for this Group are (703) 308-7764 for regular communications and (703) 305-3463 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

jcc
September 9, 2003


JOSIAH COCKS
PATENT EXAMINER
ART UNIT 3743